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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,925	06/23/2003	Thomas Friessnegg	10-571 US	6214
24949	7590	09/14/2006	EXAMINER	
TEITELBAUM & MACLEAN 1187 BANK STREET, SUITE 201 OTTAWA, ON K1S 3X7 CANADA			LEE, HWA S	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 09/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding..

## Office Action Summary

**Application No.**

10/600,925

**Applicant(s)**

FRIESSNEGG ET AL.

**Examiner**

Andrew Hwa S. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-7 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/23/03</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 1 recites the limitation "the polarized light" in the second clause. There is insufficient antecedent basis for this limitation in the claim. In the fourth clause, it appears that two clauses are combined into one. Should there be clause starting with "means for imparting a distinctly different polarization state...?"
2. Claim 3 appears to have a typographical error at the end.

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 5 and 6 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Merely identifying; determining; devising; evaluating etc. is not sufficient to constitute a tangible result, since the outcome of the method steps has not been used in a disclosed practical application nor made available in such a manner that its usefulness in a disclosed practical application is realized. See OG Notices: 22 November 2005, "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility":

Please note:

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Part b. *Practical Application the Produces a Useful, Concrete, and Tangible Result* under Section IV *Determine Whether the Claimed Invention Complies with the Subject Matter Eligibility Requirement of 35 U.S.C. Sec. 101*, sentence 3, in the OG Notice from 22 November 2005 states ‘In determining whether the claim is for a “practical application,” the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather that the final result achieved by the claimed invention is “useful, tangible, and concrete.”’.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the

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reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1, 3, 4, 6 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by VanWiggerren et al. (OFC of Applicant's IDS).

With respect to claims 1 and 7, VanWiggerren et al. show a single-scan network analyzer comprising:

- a tunable light source (TLS) for providing a light beam, the beam having a wavelength that varies periodically through a range of wavelengths at a sweep frequency rate;
- a first splitting means for splitting the polarized light beam into a signal beam and a reference beam;
- a second splitting means ("coupler") for splitting the signal beam into N sub-beams;
- means for imparting a different time delay ( $\tau$ ) to each of the N sub-beams;
- means for imparting a distinctly different polarization state to each of the sub-beams in order to associate each of the N sub-beams with a different polarization state;
- means for recombining the sub-beams with different polarization states into a single optical beam;
- means for (coupler) interfering the single optical beam with the reference beam in order to obtain an output light signal whose amplitude is varying in time, and;

means for (reflection, transmission receiver) detecting the output light signal and resolving it into its frequency components wherein the time delay for each the N sub-beam is selected such that a unique frequency component of the output light signal is associated with each one of N different polarization states.

With respect to claim 3, VanWiggerren et al. show the interfering means is one of Mach Zehnder interferometer, a Tyman Green interferometer, a Michelson interferometer, and a Fabry-Perot interferometer.

With respect to claim 3, VanWiggerren et al. show a device under test wherein the single optical beam is optically coupled to the device under test and the output of the device under test is optically coupled to the interfering means.

With respect to claim 6, VanWiggerren et al a method of single-scan network analyzer comprising the steps of (please see last column of page 253 to first column of page 253):

providing a light beam of varying frequency from a frequency-tunable light source;  
splitting the light beam into a first light beam and a reference light beam;  
splitting the first light beam into N sub-beams;  
imparting a different time delay to each of the N-sub-beams;  
imparting a different polarization state to each of the N sub-beams;

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recombining the N sub-beams into a single combined light beam containing the

supersposition of the N polarization states;

passing the single combined light beam through a device under test to produce a

transmitted light beam

imparting a path length difference between the single combined light beam and the

reference light beam;

combining the transmitted light beam and the reference light beam to cause interference

therebetween and to produce an output beam, and

analyzing the frequency content of the output beam to detect optical properties of the

device under test.

6. Claim 5 is rejected under 35 U.S.C. 102(e) as being anticipated by Rosenfeldt et al (US 6,606,158).

Rosenfeldt et al show the determination of a property of an optical device (Figure 1 and element 102) comprising

a) splitting an input light beam into N sub-beams

b) imparting a different time delay to each of the N sub-beams,

c) imparting a different polarization state to each of the

N sub-beams, and

d) recombining the N sub-beams into a single combined light beam containing the

supersposition of the N polarization states.

***Allowable Subject Matter***

7. Claim 2 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to show or to suggest an optical multiplexing apparatus comprising all the limitations as presently claimed wherein N is four and the different polarization states are linear horizontal, linear diagonal, linear vertical and right-hand circular.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Hwa S. Lee whose telephone number is 571-272-2419. The examiner can normally be reached on Tue-Fr.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley Jr. can be reached on 571-272-2800 ext 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Andrew Hwa Lee  
Primary Examiner  
Art Unit 2877

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